



SAMPLE MATERIAL

Assignment: Problem Solving

Castle View High School, Colorado

Topic: National Math Panel: The Major Topics of School Algebra

Practice: Topics of Algebra

Algebra teacher John Lawless uses the attached assignment in a unit on drafting and polynomials to give students practice with using polynomials to create graphic designs. The tasks ask students to find equations that will put pictures and letters on the screen of a graphing calculator. Students may find it helpful to transform linear equations as different forms provide different information. The lesson also involves limiting the domain for polynomial functions, and leads to using higher degree polynomials for other designs.

Assignment: Polynomial Functions

Problem 1.

The birdhouse design shown in the following picture was created using polynomial functions. The functions were graphed on the same coordinate system; then segments of each graph were used to form the birdhouse. Determine a set of polynomial functions that could be used in this process, including the necessary restrictions on the domain of each one.



Problem 2.

Determine a set of polynomial functions, along with their respective domains, that could be used to create the word **WAX** in capital letters on a computer screen.